

Serial No. 10/849,571
Reply to Office Action of June 12, 2007

Docket No. UMBC-0015

REMARKS

Claims 15, 16 and 47-61 are pending in this application. By this Amendment, claims 15, 16, 48, 50, 51 and 61 are amended, and claim 55 is canceled without prejudice or disclaimer of the subject matter claimed therein. Reconsideration in view of the above Amendments and the following Remarks is respectfully requested.

Applicants appreciate the courtesies extended to Applicants and Applicants' representative, René A. Vazquez, during the October 10, 2007 telephone interview. The substance of the telephone interview is incorporated in the remarks set forth below.

Applicants appreciate the Patent Office's indication that claims 56-59 are allowed.

The Patent Office rejects claims 48, 50 and 61 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Patent Office alleges that the language "[t]he higher order perturbation process" lacks antecedent basis. Claims 48, 50 and 61 have been amended to read, in part, "a second or higher order perturbation process." Thus, Applicants respectfully submit that claims 48, 50 and 61 particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, withdrawal of the rejection under 35 U.S.C. 112, second paragraph, is respectfully requested.

Serial No. 10/849,571
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Docket No. UMBC-0015

The Patent Office rejects claims 15, 16, 47-54, 60 and 61 under 35 U.S.C. 102(e) as anticipated by U.S. Patent Application Publication No. US 2003/0013541 to Weiss et al. (hereinafter "Weiss"). This rejection is respectfully traversed.

Weiss fails to disclose every claimed feature, as required under §102. Claim 15 recites, *inter alia*, "a damage information processor for receiving said stiffness parameters and outputting damage information comprising at least spatial damage information on said structure." As discussed during the telephone interview, Weiss does not teach or suggest this feature. Specifically, Weiss discloses a method and apparatus for measuring and orienting a golf club shaft in which the vibratory motion of the golf club shaft is analyzed as a whole by looking at different angular positions. Roundness, straightness and stiffness of the shaft are each determined for the shaft as a whole using the Weiss method to characterize the performance of the golf shaft (see Column 3, lines 35-50). Thus, the Weiss method does not spatially resolve these parameters.

In contrast, claim 15 recites a damage information processor that receives stiffness parameters and outputs damage information comprising at least spatial damage information on said structure. Thus, the system of claim 15 is capable of pinpointing the exact spatial location of damage on a structure. Weiss does not teach or suggest these features because Weiss is only concerned with determining the straightness and stiffness of the shaft as a whole.

Serial No. 10/849,571
Reply to Office Action of June 12, 2007

Docket No. UMBC-0015

Claims 47, 49 and 60 recite, *inter alia*, that the stiffness parameter unit “comprises an iterative processing unit that determines said stiffness parameters using a first order perturbation process. ” As discussed during the telephone interview, Weiss fails to teach or suggest these features. The Patent Office alleges that paragraph 0066, lines 8-13 of Weiss teaches using a first-order perturbation process. However, Weiss actually states “the location of the principal planar oscillation plane is located to a first-order approximation--i.e., at least to within the correct quadrant--by determining the orientation of the direction of greatest resistance to bending of the golf club shaft. This has the further benefit of quickly identifying the "hard" side of the principal planar oscillation plane, as described above” (emphasis added). Thus, as discussed during the telephone interview, Weiss teaches determining a first-order approximation of the plane or angle of oscillation. In contrast, the claimed invention utilizes an iterative processing unit that determines the actual stiffness parameters at selectable spatial locations using a first order perturbation process.

Claims 48, 50 and 61 recites, *inter alia*, a stiffness parameter unit that comprises “an iterative processing unit that determines said stiffness parameters using a second or higher order perturbation process. ” Weiss fails to teach or suggest this feature.

Claim 51 recites, *inter alia*, “a damage information processor for receiving said stiffness parameters and outputting location of damage on said structure. As discussed

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Serial No. 10/849,571
Reply to Office Action of June 12, 2007

Docket No. UMBC-0015

above, Weiss does not teach or suggest these features because Weiss is only concerned with determining the straightness and stiffness of the shaft as a whole.

Thus, for at least the reasons set forth above, Applicants respectfully submit that Weiss fails to anticipate the subject matter of claims 15, 47, 48, 49, 50, 51, 60 and 61. Claim 16 depends from claim 15 and claims 52-54 depend from claim 51. Thus, these claims are also allowable for at least the reasons discussed above, as well as for the additional features they recite. Accordingly, withdrawal of the rejection under 35 U.S.C. 102(e) is respectfully requested.

The Patent Office rejects claims 55 under 35 U.S.C. 103(a) as unpatentable by U.S. Patent Application Publication No. US 2003/0013541 to Weiss et al. (hereinafter "Weiss"). Claim 55 has been canceled. Thus, this rejection is now moot.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, René A. Vázquez, Esq., at the telephone number listed below.

Serial No. **10/849,571**
Reply to Office Action of June 12, 2007

Docket No. **UMBC-0015**

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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